

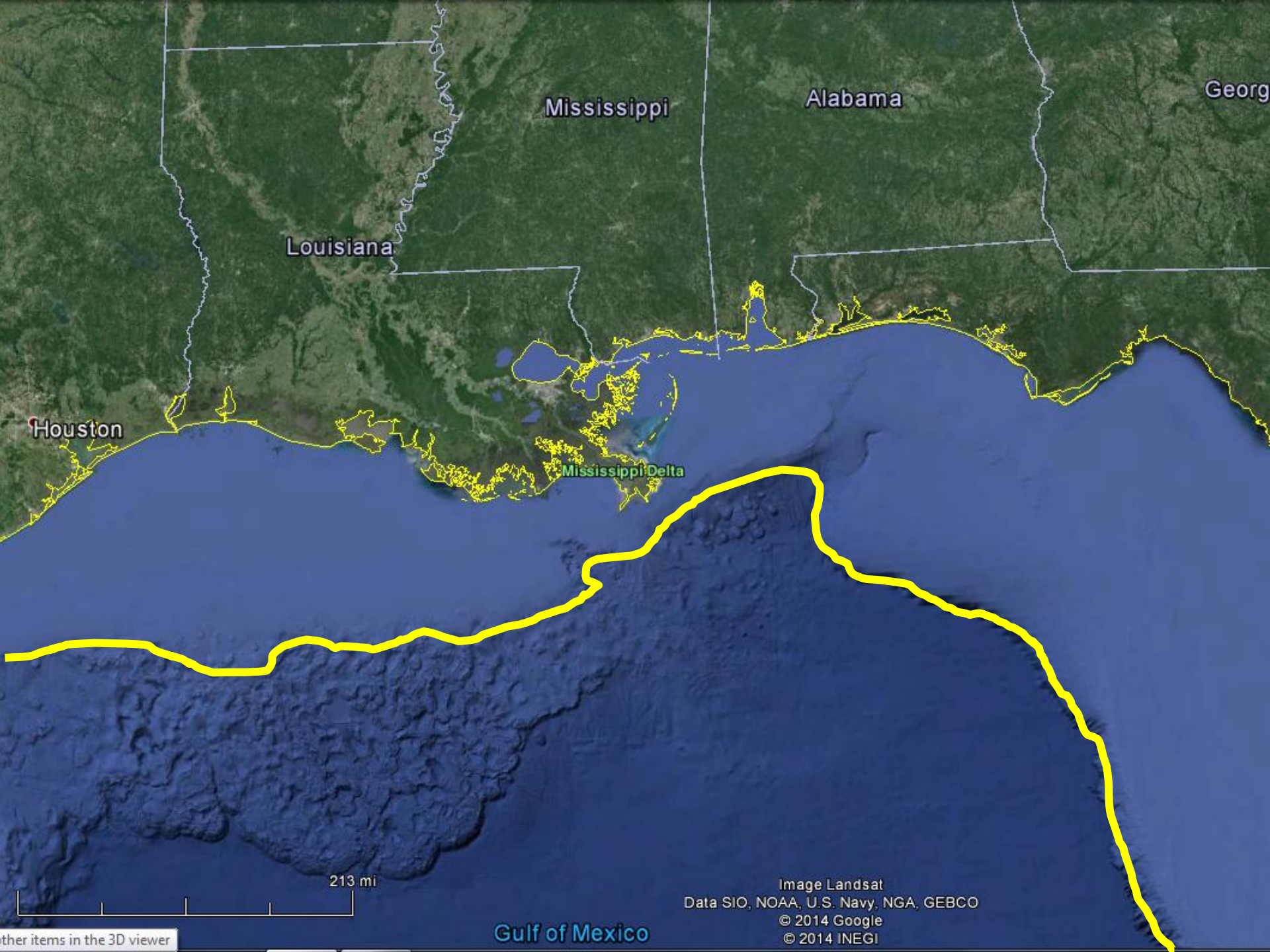
# **Chuck Perrodin**



## **Public Information Officer**

**TOLL FREE  
WEIR INFORMATION  
PHONE NUMBER  
(855) 532-9955**





Mississippi

Alabama

Georg

Louisiana

Houston

Mississippi Delta

213 mi

Gulf of Mexico

Image Landsat  
Data SIO, NOAA, U.S. Navy, NGA, GEBCO  
© 2014 Google  
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Other items in the 3D viewer

10,000 Years Ago

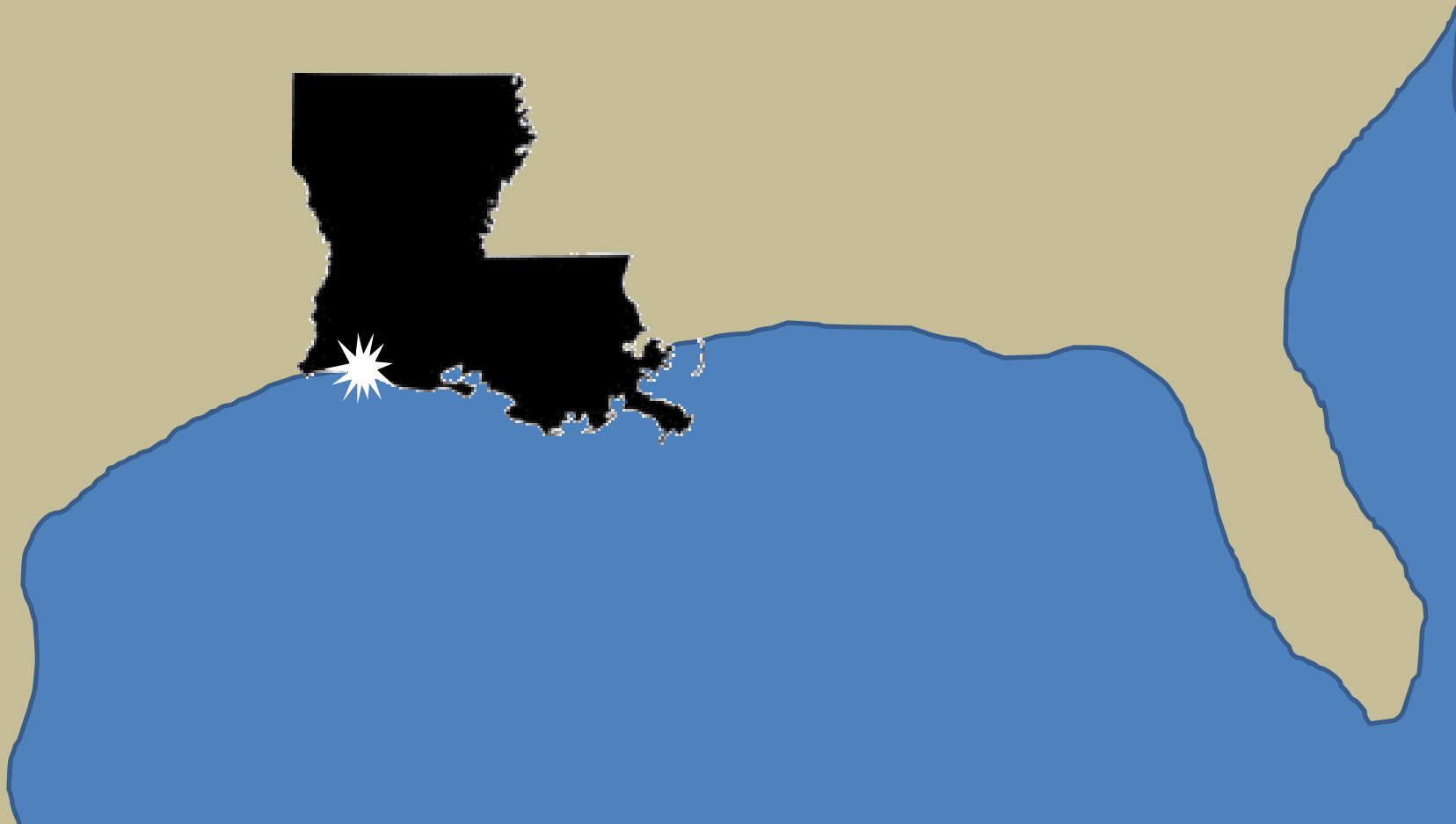
# LAST ICE AGE

**Cameron was more than  
100 miles inland from the coast**

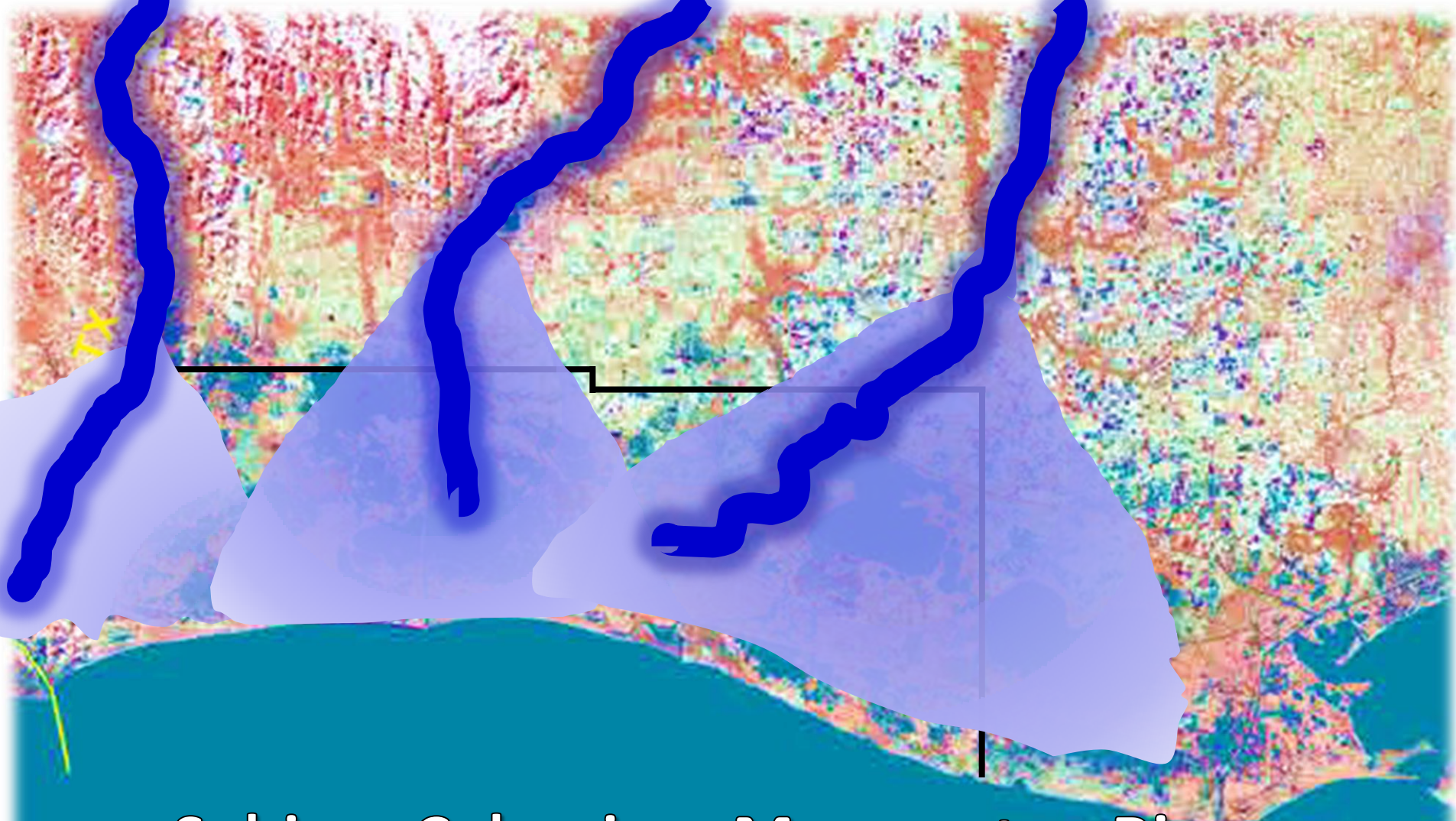


**Literally, no salt  
water in sight**

**Sea Level was 350' lower**



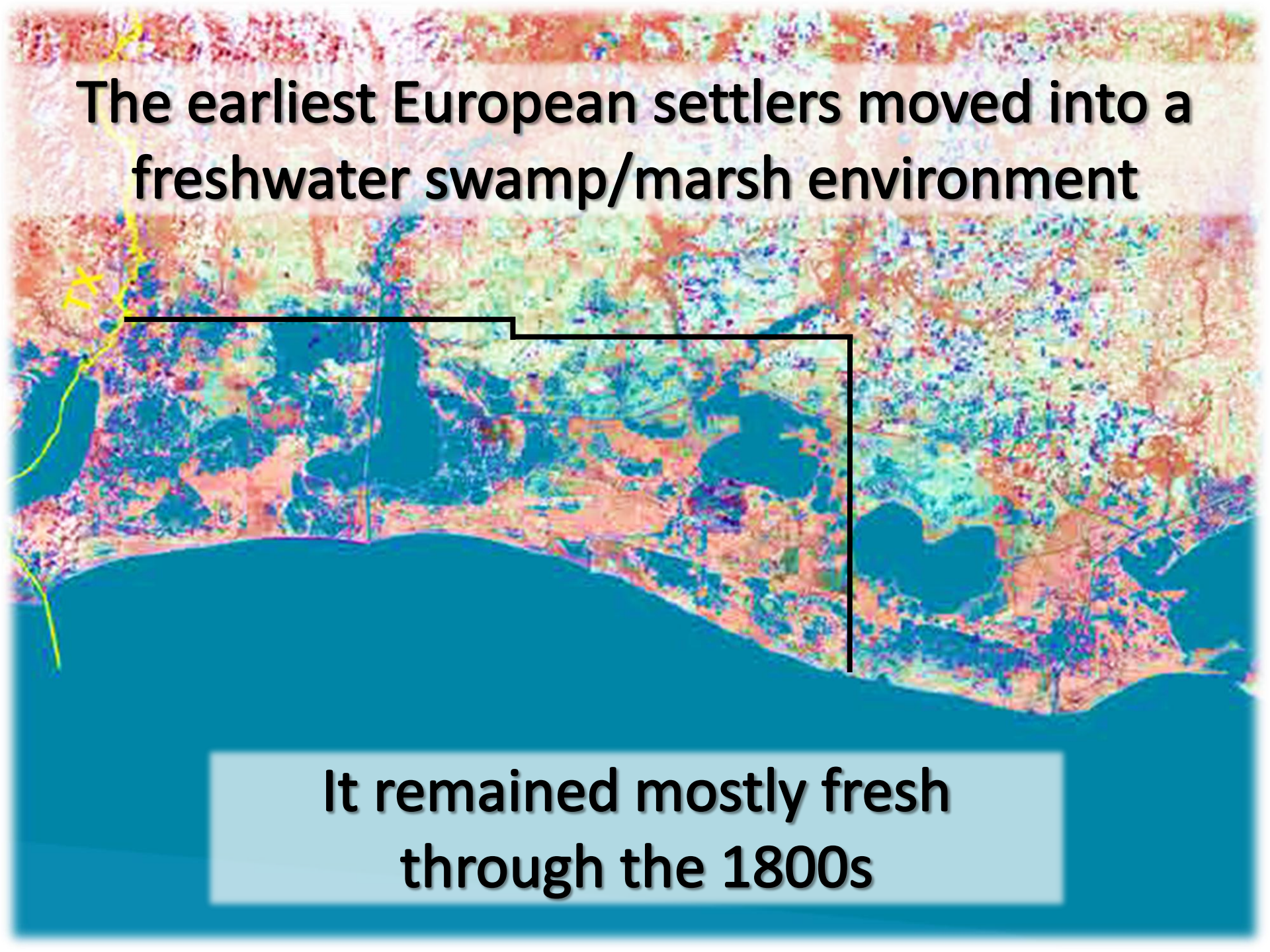




Sabine, Calcasieu, Mermentau Rivers  
(former channels of Red River)  
deposited sediment & fresh water

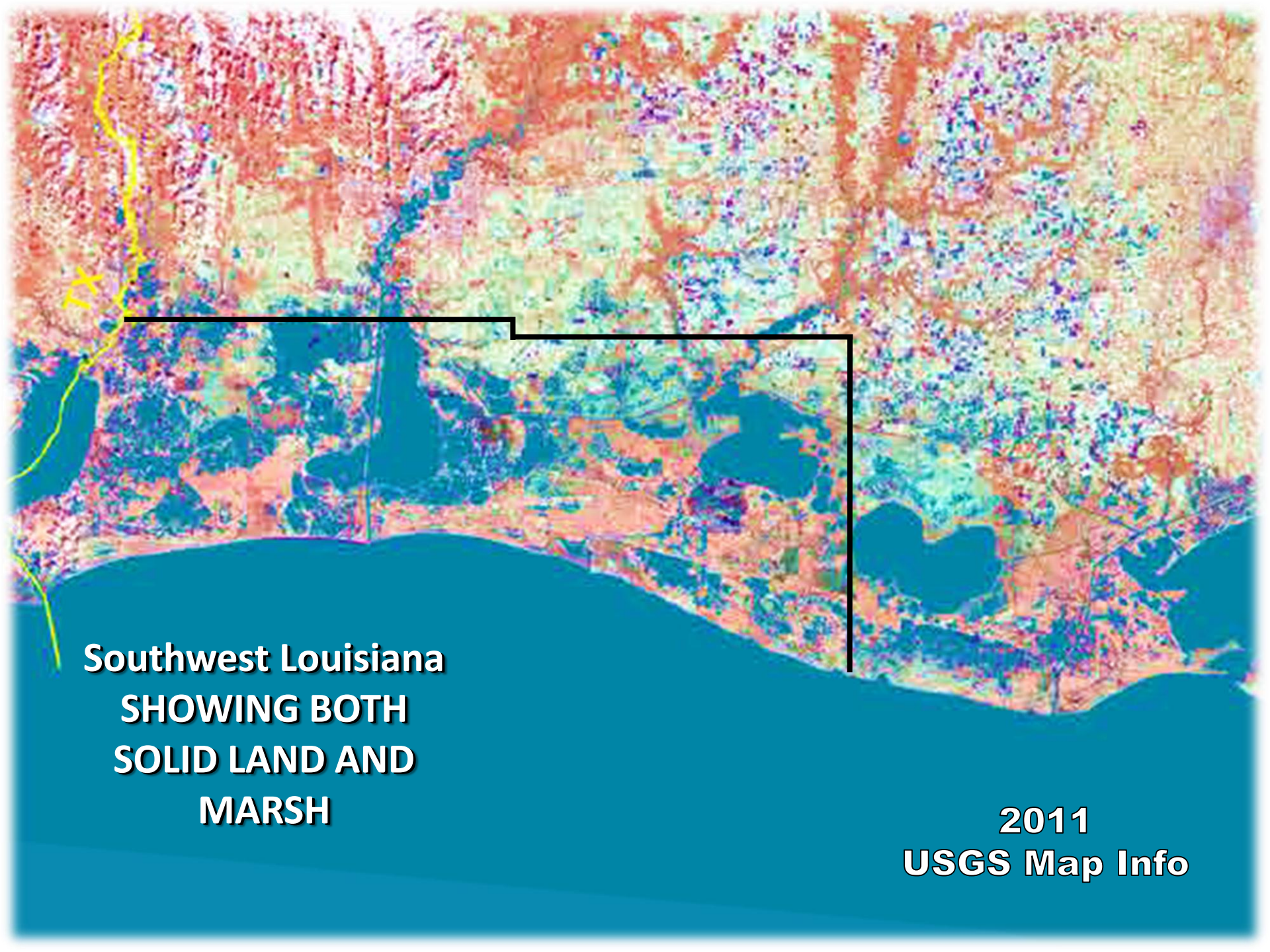


**The earliest European settlers moved into a  
freshwater swamp/marsh environment**

An aerial photograph of a coastal wetland area. The foreground is a large, dark blue body of water. The background is a complex, textured landscape of various shades of brown, tan, and green, representing different types of wetland vegetation and water levels. A black rectangular box is drawn over the middle section of the image, highlighting a specific area of interest. The box is positioned horizontally across the middle, with a vertical line extending downwards from its right side.

**It remained mostly fresh  
through the 1800s**





**Southwest Louisiana  
SHOWING BOTH  
SOLID LAND AND  
MARSH**

**2011  
USGS Map Info**

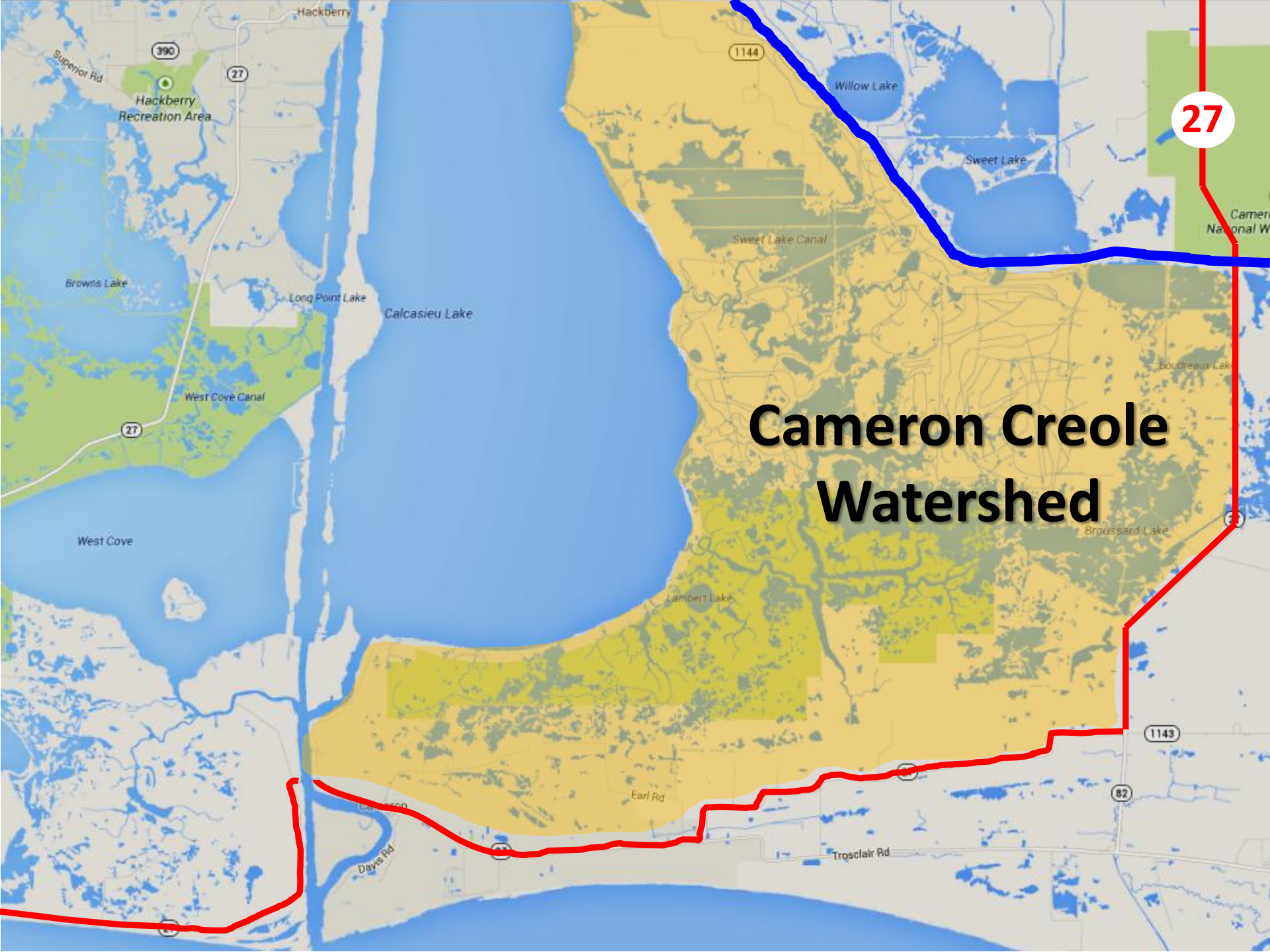




**Southwest Louisiana  
SHOWING  
SOLID LAND ONLY**

**2011  
USGS Map Info**





# Cameron Creole Watershed

27

1143

82

390

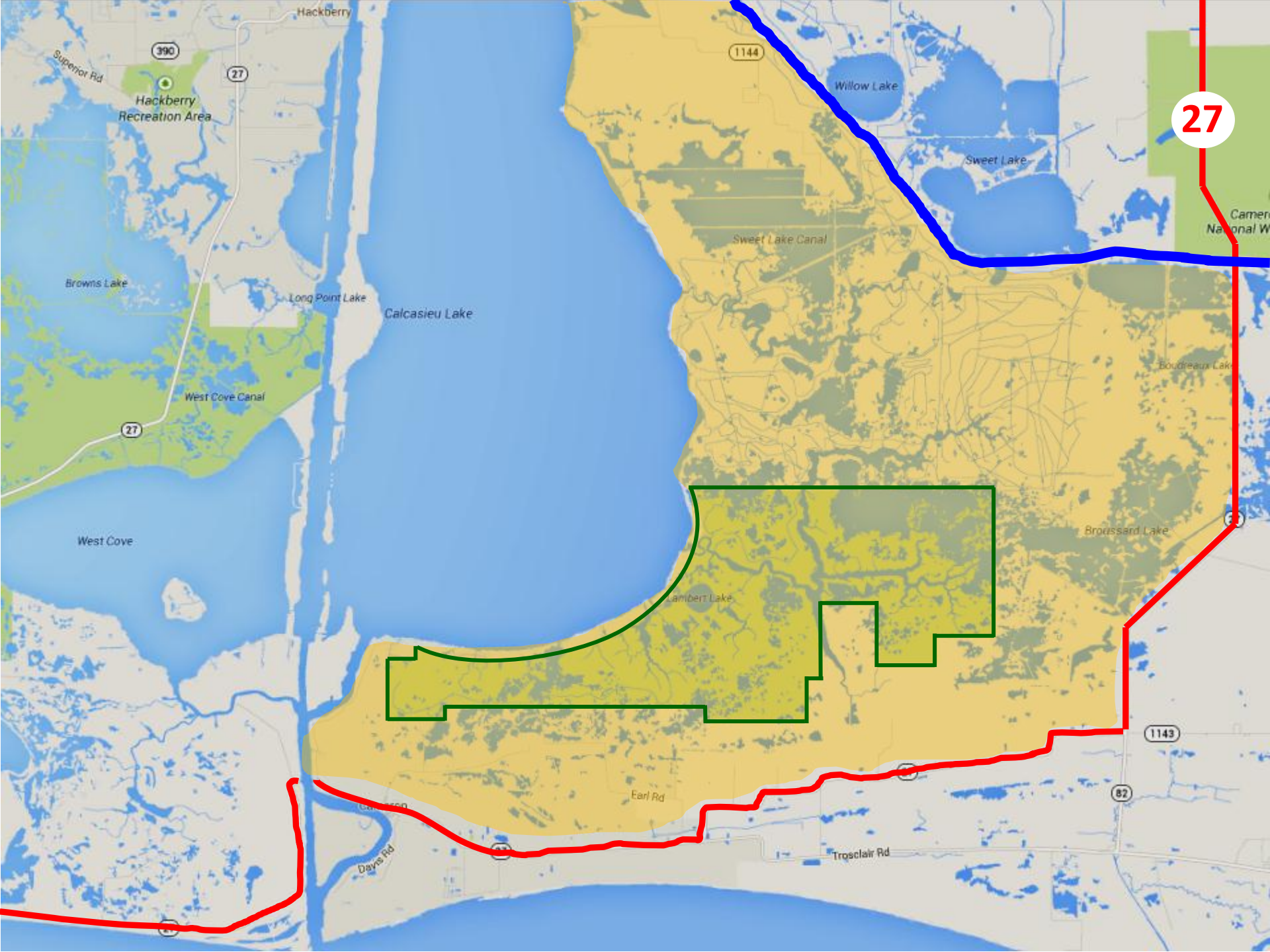
27

1144

27

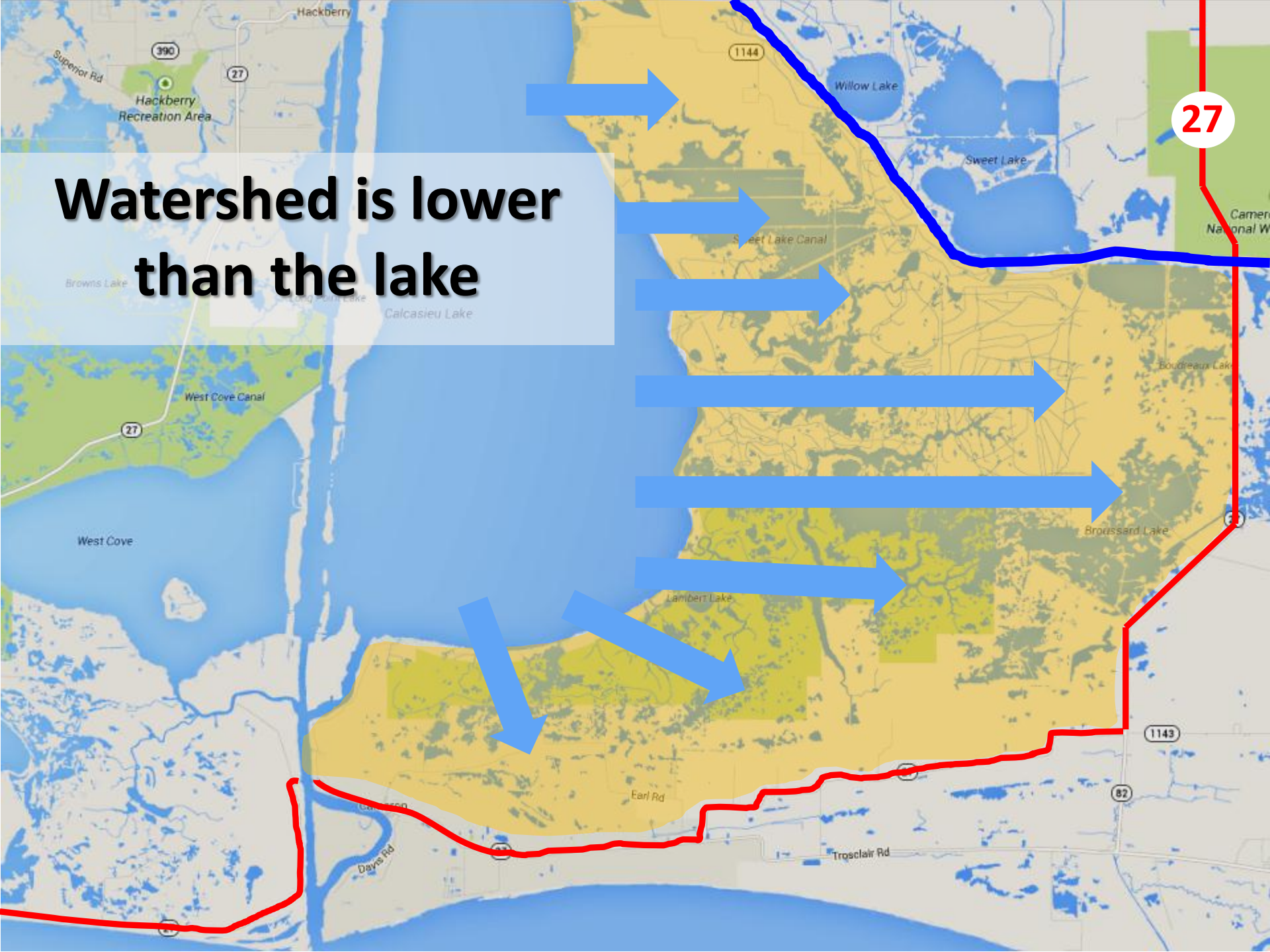
3







**Watershed is lower  
than the lake**







The map shows a coastal region with a large body of water on the left. A red line follows the coastline, with a red circle containing the number '27' near the top right. A blue line runs diagonally across the land area. Several blue arrows point from the water towards the land, indicating evaporation. The land is colored yellow, suggesting salt accumulation. Labels on the map include 'Hackberry Recreation Area', 'Superior Rd', '390', '27', 'Hackberry', 'Browns Lake', 'Long Point Lake', 'Calcasieu Lake', 'Sweet Lake Canal', 'Willow Lake', 'Sweet Lake', 'Boudreaux Lake', 'Broussard Lake', 'Lambert Lake', 'Earl Rd', 'Troisclair Rd', '82', '1143', '1144', and 'Cameron National W'. The text 'WATER EVAPORATES Leaving salt behind' is overlaid on the left side of the map.

**WATER EVAPORATES**  
**Leaving salt behind**

**With no adequate  
freshwater source  
(or too much flooding)  
marsh becomes  
saltier and weak**



A map of a coastal region, likely in Louisiana, showing a network of waterways and land. Key features include Hackberry Recreation Area, Willow Lake, Sweet Lake Canal, Browns Lake, Long Point Lake, Calcasieu Lake, West Cove Canal, West Cove, Broussard Lake, and Cameron National Wildlife Refuge. Roads 27, 390, 1144, and 82 are marked. The text is overlaid on this map.

# **Intermediate/Brackish Marsh**

**Desirable for the  
fish, shrimp and crabs we have today**

**TOO SALTY**

**We could lose the habitat for  
larval fish, shrimp and crabs**

A map of the Gulf of Mexico coastline, showing various lakes and canals. The map is overlaid with a color-coded salinity scale. The text "General Gulf of Mexico Salinity" is prominently displayed at the top, followed by "33 ppt (parts per thousand)". Below this, "North Calcasieu Lake" is highlighted in yellow, with the text "Readings as high as 29.0 ppt" indicating the salinity level in that area. The map includes labels for "Hackberry Recreation Area", "Willow Lake", "Broussard Lake", "Boudreaux Lake", "West Cove", "West Cove Canal", "Long Point Lake", "Calcasieu Lake", "Cameron Lake", "Cameron", "Earl Rd", "Troisclair Rd", "Dyers Rd", "Superior Rd", "I 144", "I 143", "I 82", and "27".

# General Gulf of Mexico Salinity

**33 ppt**  
*(parts per thousand)*

## North Calcasieu Lake

*Readings as high as*  
**29.0 ppt**





A map of a coastal area, likely in Louisiana, showing various lakes and canals. A blue line runs from the top left, through Sweet Lake and Sweet Lake Canal, and then horizontally across the middle. A red line runs vertically on the right side, then turns left and runs horizontally along the bottom. The map is color-coded: light blue for water, light green for marsh, and yellow for land. Labels include Hackberry, Superior Rd, 390, 27, Browns Lake, Long Point Lake, Calcasieu Lake, West Cove Canal, West Cove, Sweet Lake, Sweet Lake Canal, Willow Lake, Broussard Lake, Boudreaux Lake, Lambert Lake, Harl Rd, Davis Rd, Trosclair Rd, 1144, 82, and 1143. A white circle with the number 27 is on the red line on the right.

**STRESS SALINITY**

**CYPRESS TREES**  
**2 ppt**

**BRACKISH MARSH**  
**8 ppt**

**SALTWATER MARSH**  
**40 ppt**



# STRESS SALINITY

**CYPRESS TREES**

**2 ppt**

**BRACKISH MARSH**

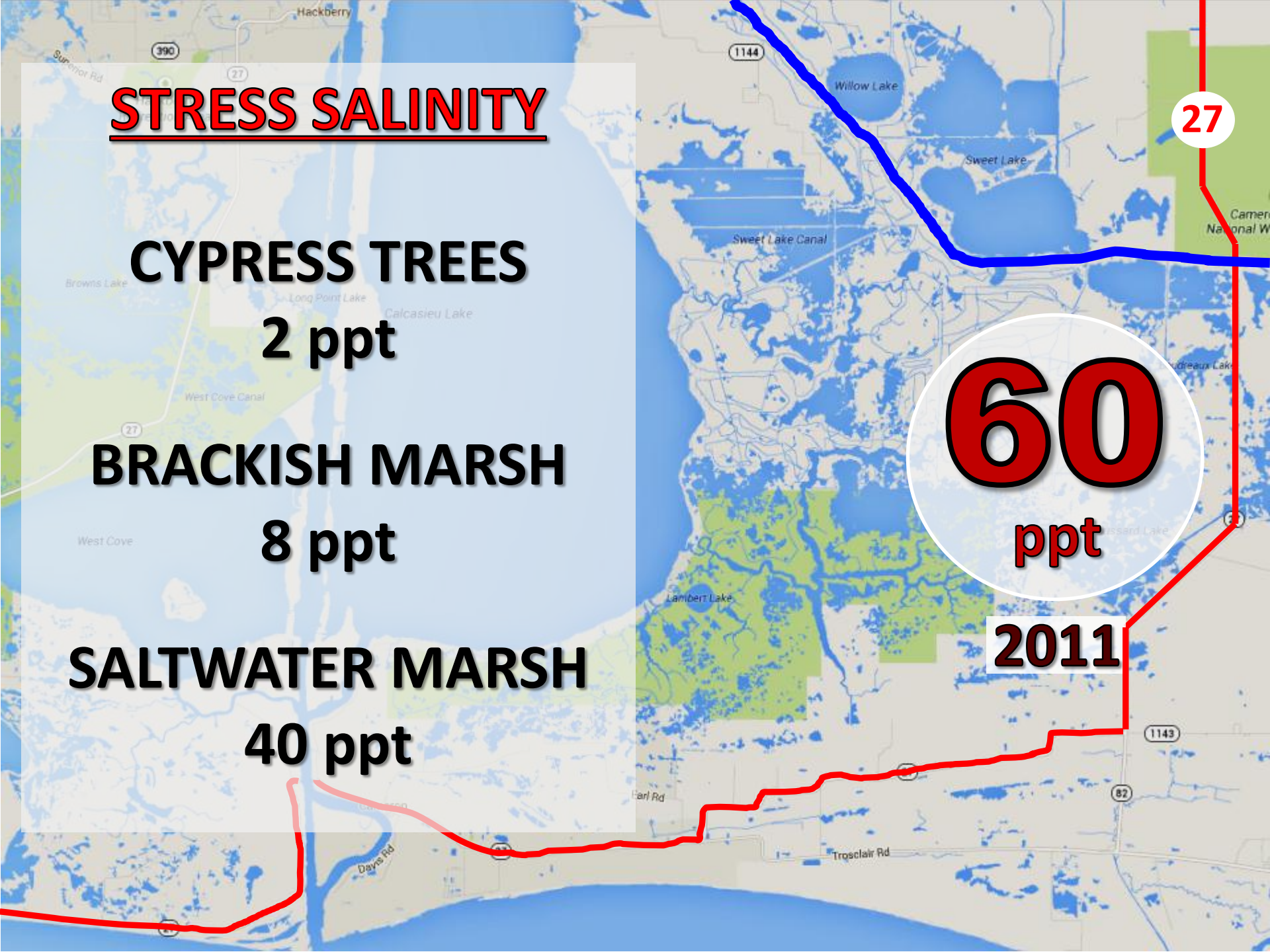
**8 ppt**

**SALTWATER MARSH**

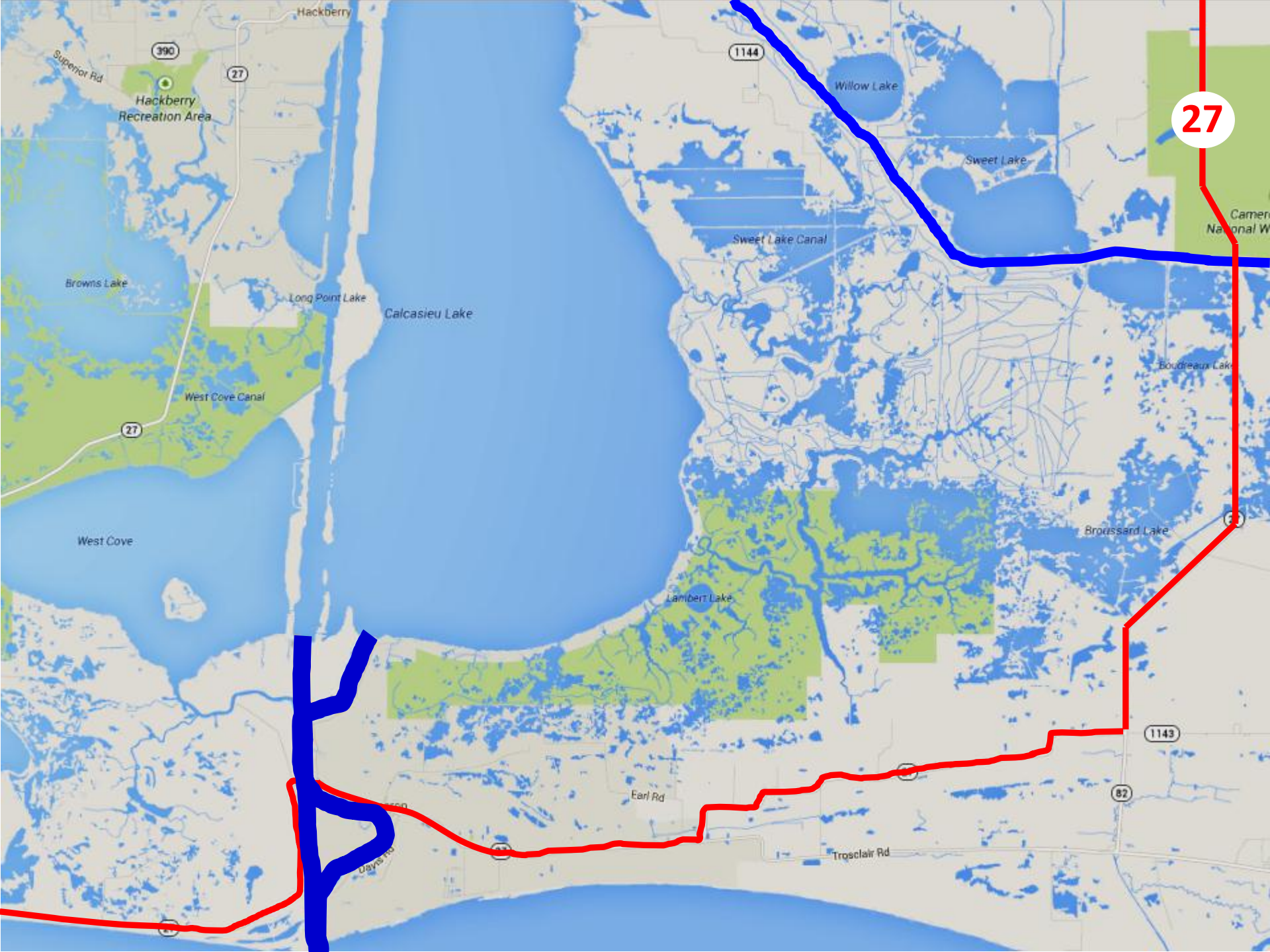
**40 ppt**

**60**  
ppt

**2011**





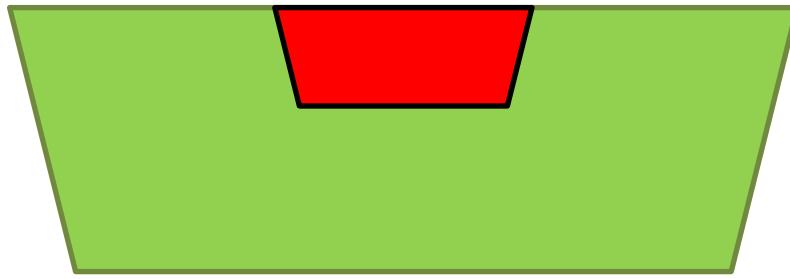




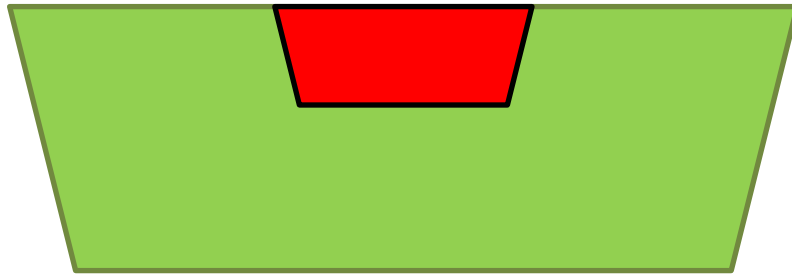
*Ship Channel*  
*first created in 1874*

**1874**  
**80' wide**  
**5' deep**





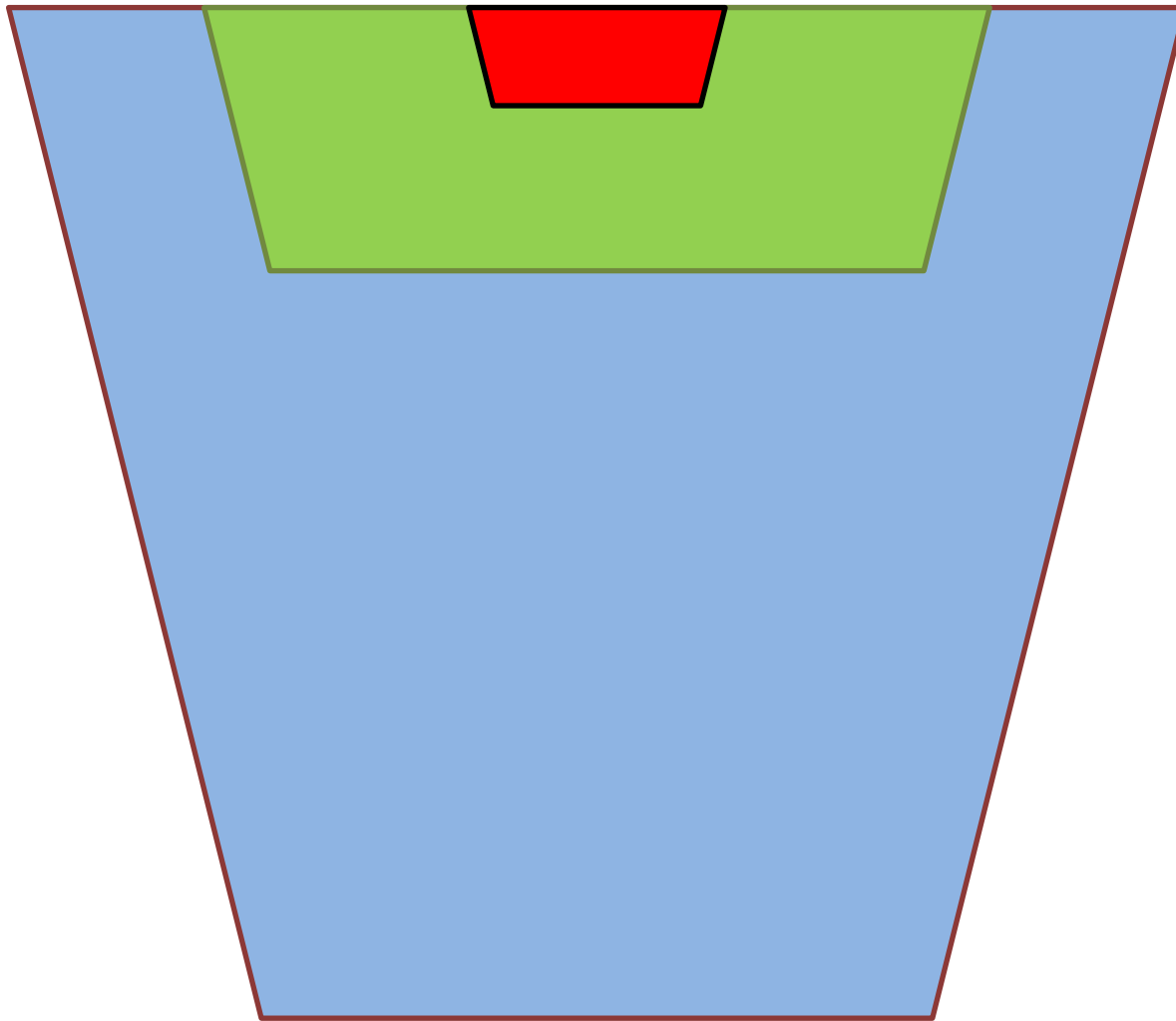
**1903**  
**200' wide**  
**13' deep**



*Until 1910  
Calcasieu Lake  
was fresh enough  
to be used for  
rice irrigation*

**1903**  
**200' wide**  
**13' deep**





*Ship Channel completed from  
the Gulf to Lake Charles*

**1941**  
**250' wide**  
**30' deep**

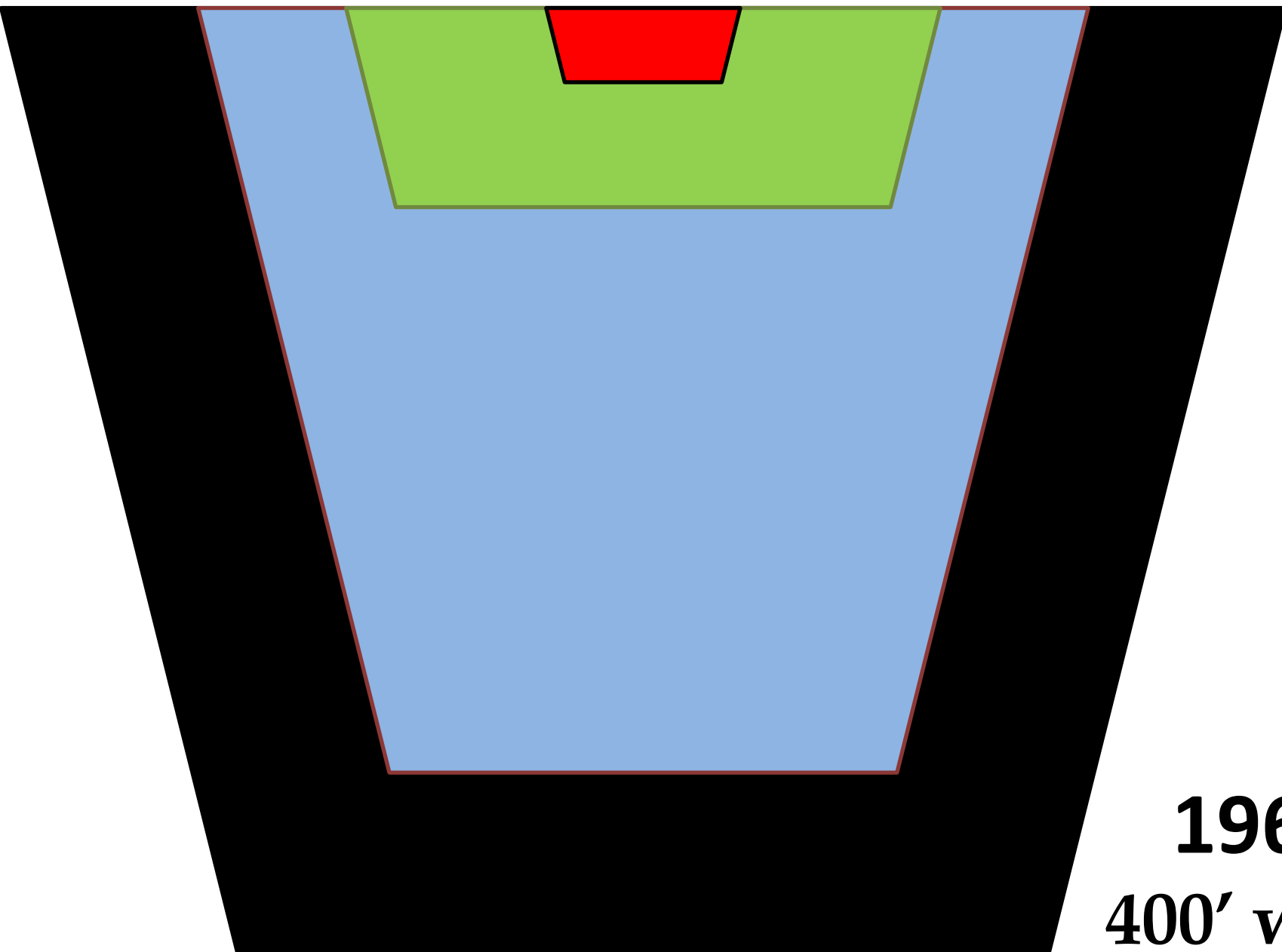


**1949** Levee first proposed

**1952** Geographer warned of area becoming future Lake Pontchartrain

**1962** Salt water control structure on the Calcasieu River 2 miles north of Lake Charles





**1968**  
**400' wide**  
**40' deep**



**1949** Levee first proposed

**1981** Construction of Levee begins

**1987** Construction of Weirs begins  
Resource Management Plan adopted  
Advisory Committee created

**1989** Weirs completed  
controlled operation begins

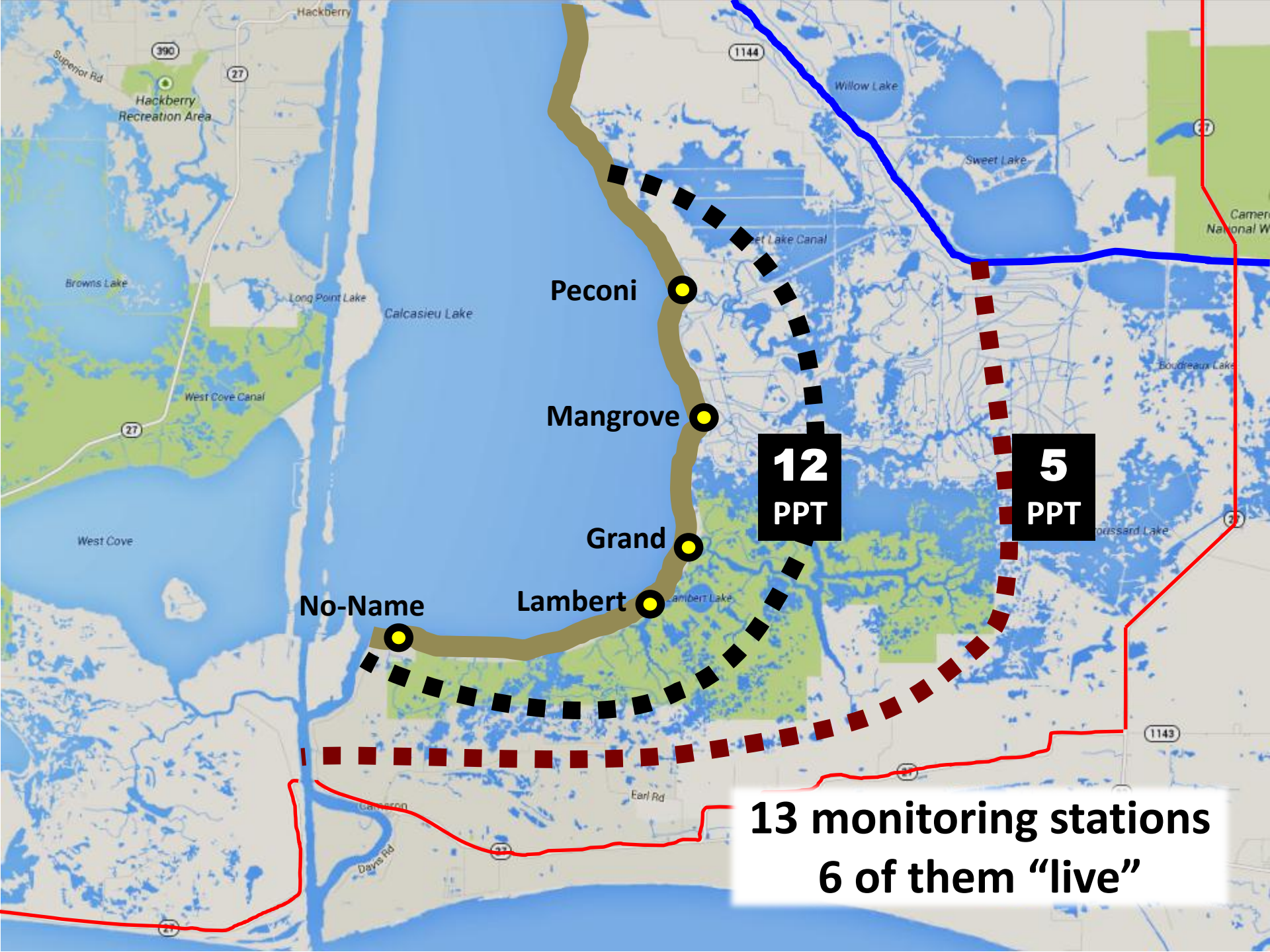




**By following the MANAGEMENT PLAN  
the marsh started to come back :  
±82 acres GAINED per year  
through 2004**

**2005-2010  
MANAGEMENT PLAN  
was not followed  
±362 acres LOST per year**





Peconi

Mangrove

Grand

No-Name

Lambert

12  
PPT

5  
PPT

13 monitoring stations  
6 of them "live"





**Management Plan takes into account  
more than just marsh salinity readings**

**Other factors include:**

**Water levels in lake and marsh**

**Seasonal migration**

**Lunar migration**

**Frontal systems and wind direction**

**Storm systems and tides**

**Water temperatures**





**What is  
CPRA's role?**





- **CPRA does not own the marsh**
- **CPRA does not own the Refuge**
- **CPRA does not own the levee**
- **CPRA does not own the weirs**
- **CPRA didn't create the Management Plan**
- **CPRA is not on the Committee**
- **CPRA advises, it does not decide**





**January 2012**

**CPRA began assisting local authorities by taking the scientific measurements and advising the committee in charge on the readings and how conditions are trending**





## **What does CPRA do?**

- **Help out with maintenance & costs**
- **Take scientific measurements**
- **Inform and advise Committee**
- **Close or open weirs on instructions from the Committee**



# **CAMERON CREOLE ADVISORY COMMITTEE**

- **Cameron Parish Police Jury**
- **Cameron Parish Gravity Drainage District 3**
- **Cameron Parish Gravity Drainage District 4**
- **U.S. Fish & Wildlife Service**
- **U.S. Natural Resources Conservation Service**
- **U.S. Army Corps of Engineers**
- **NOAA** (National Oceanic & Atmospheric Administration)
- **La. Dept. of Wildlife & Fisheries**
- **Miami Corporation**



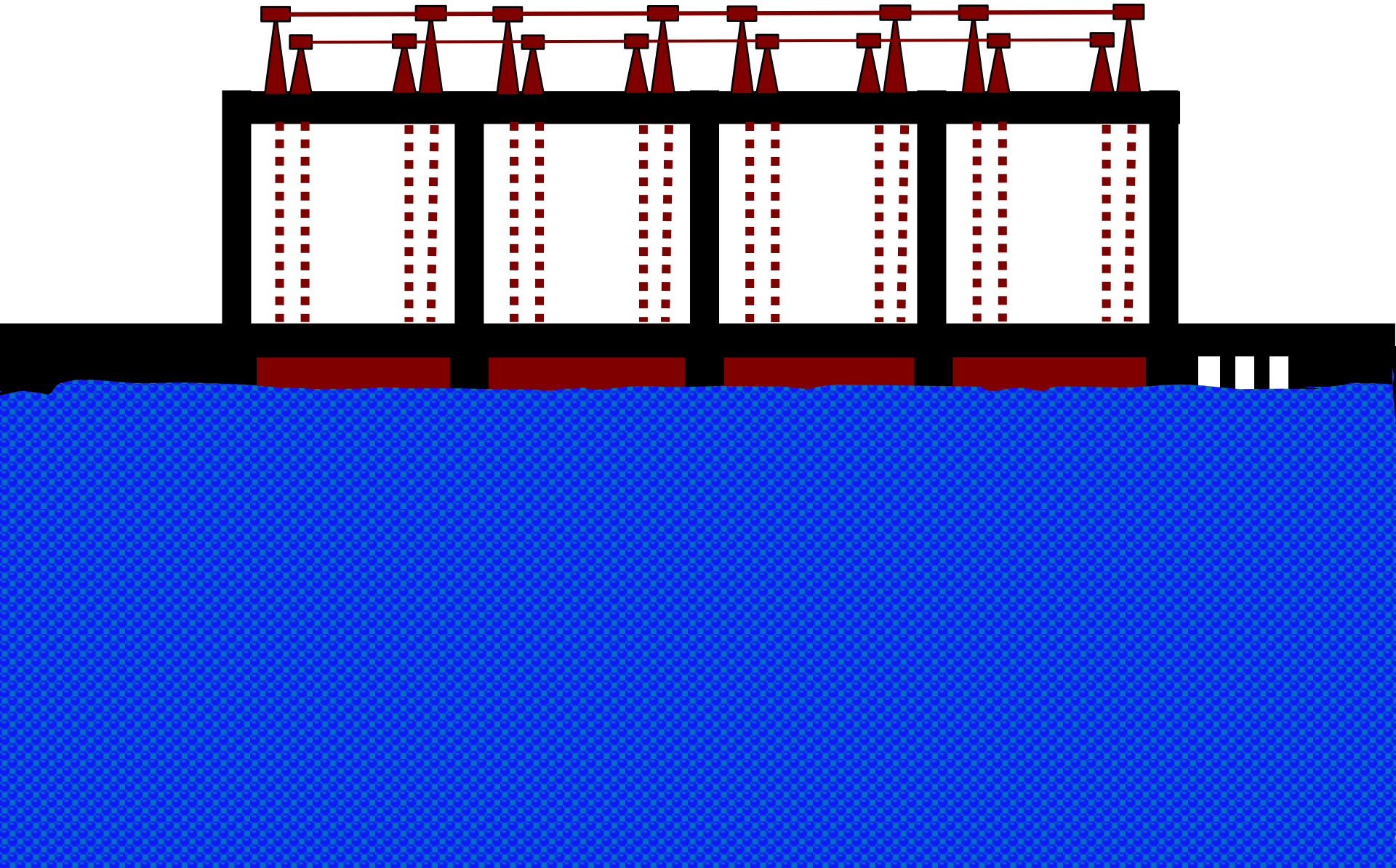






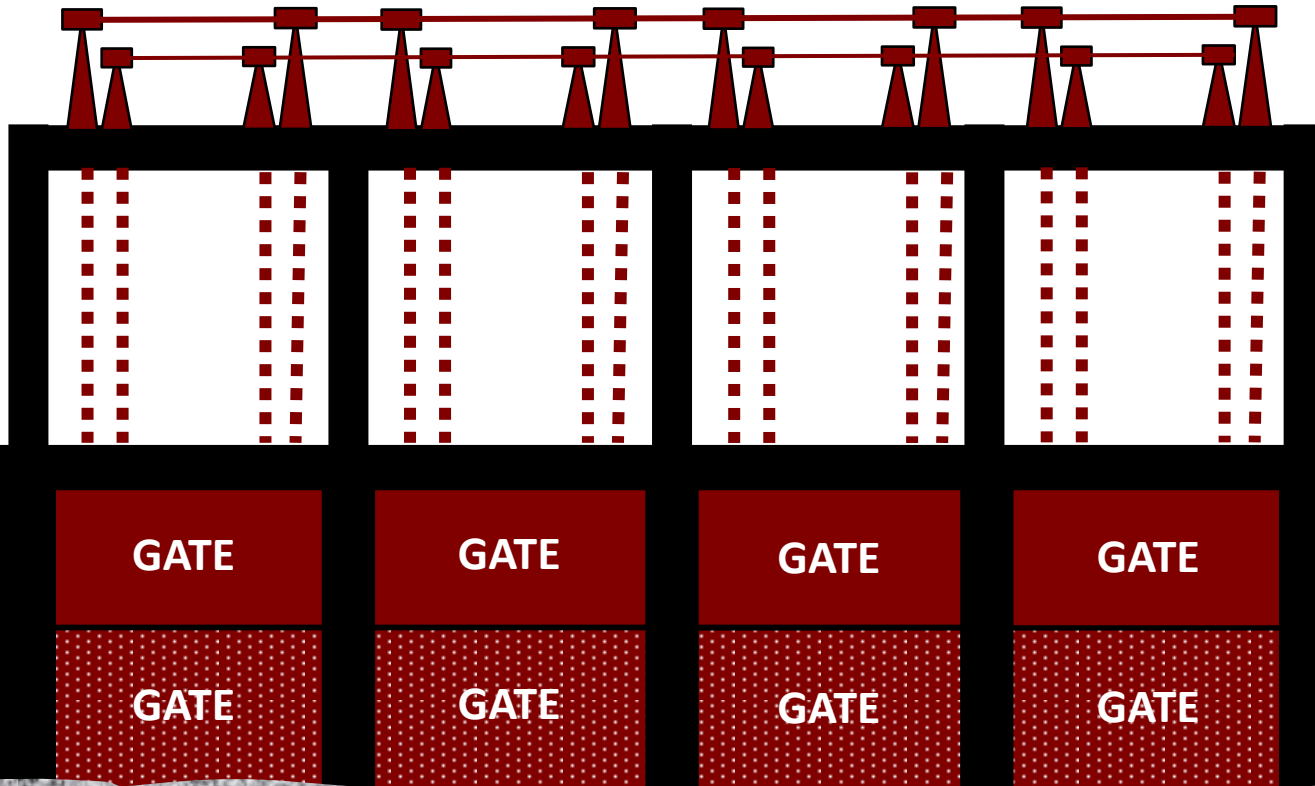
# ADJUSTABLE CREST WEIR STRUCTURES

Peconi & Lambert



# ADJUSTABLE CREST WEIR STRUCTURES

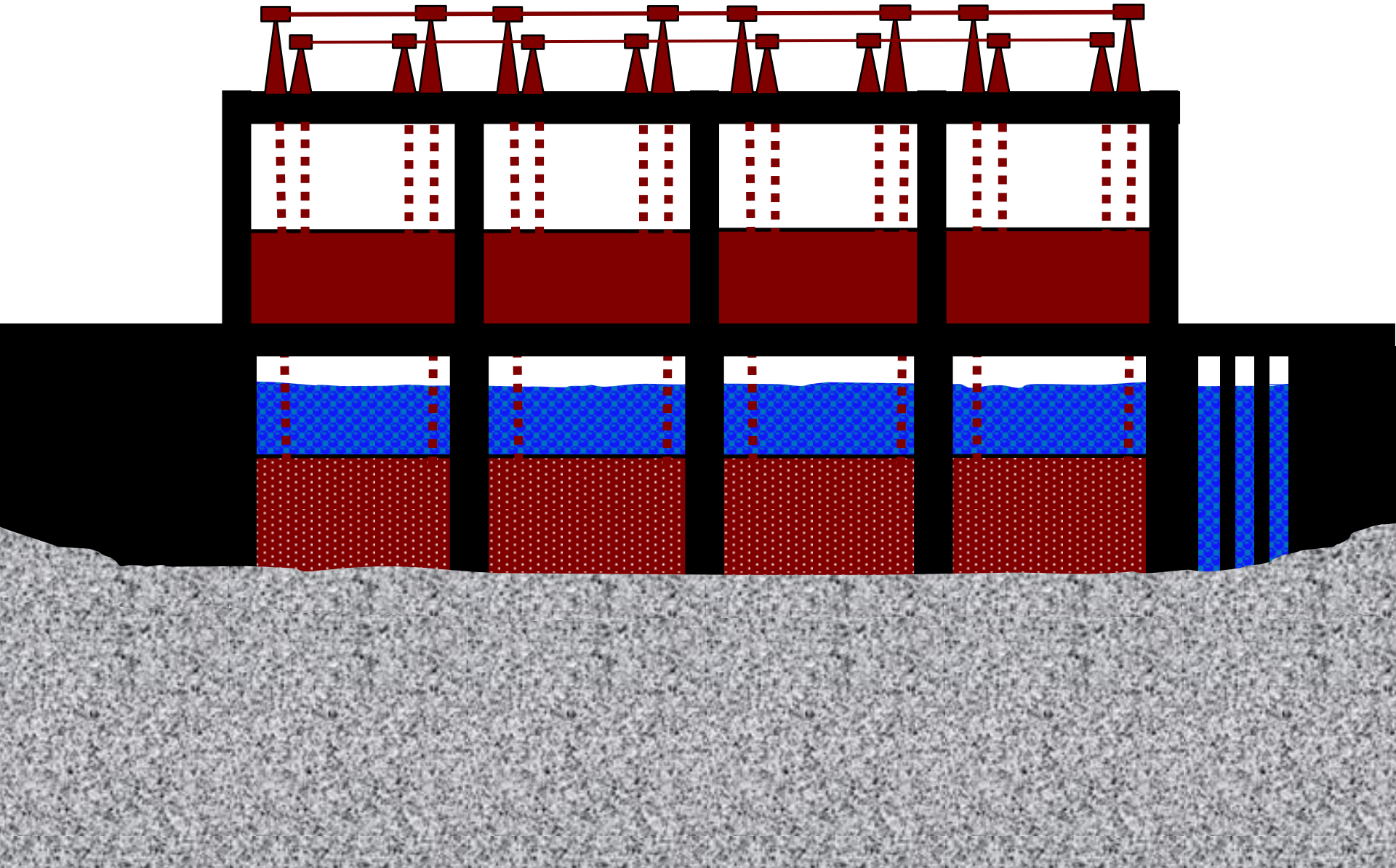
**Peconi & Lambert**





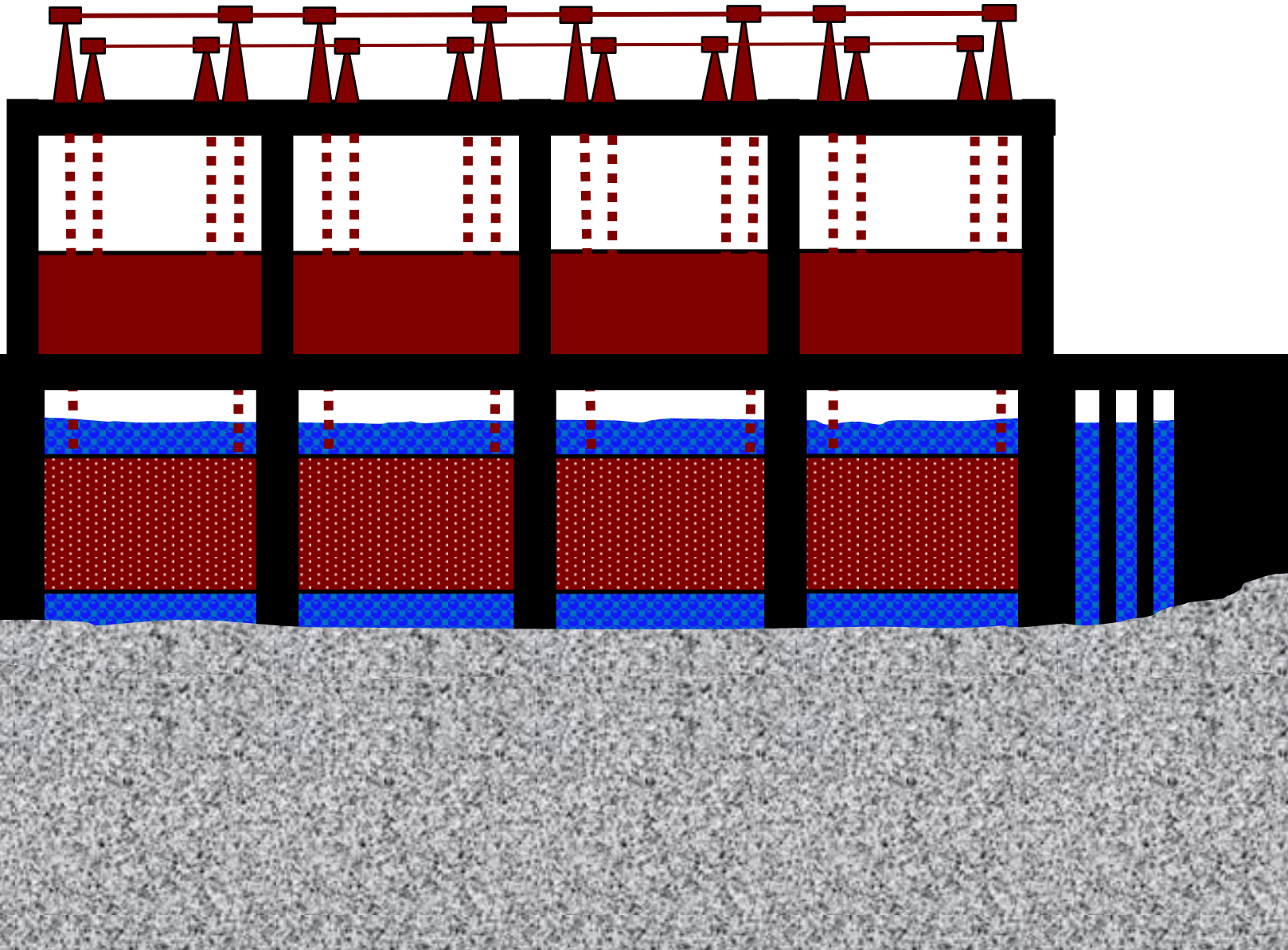
# ADJUSTABLE CREST WEIR STRUCTURES

Peconi & Lambert



# ADJUSTABLE CREST WEIR STRUCTURES

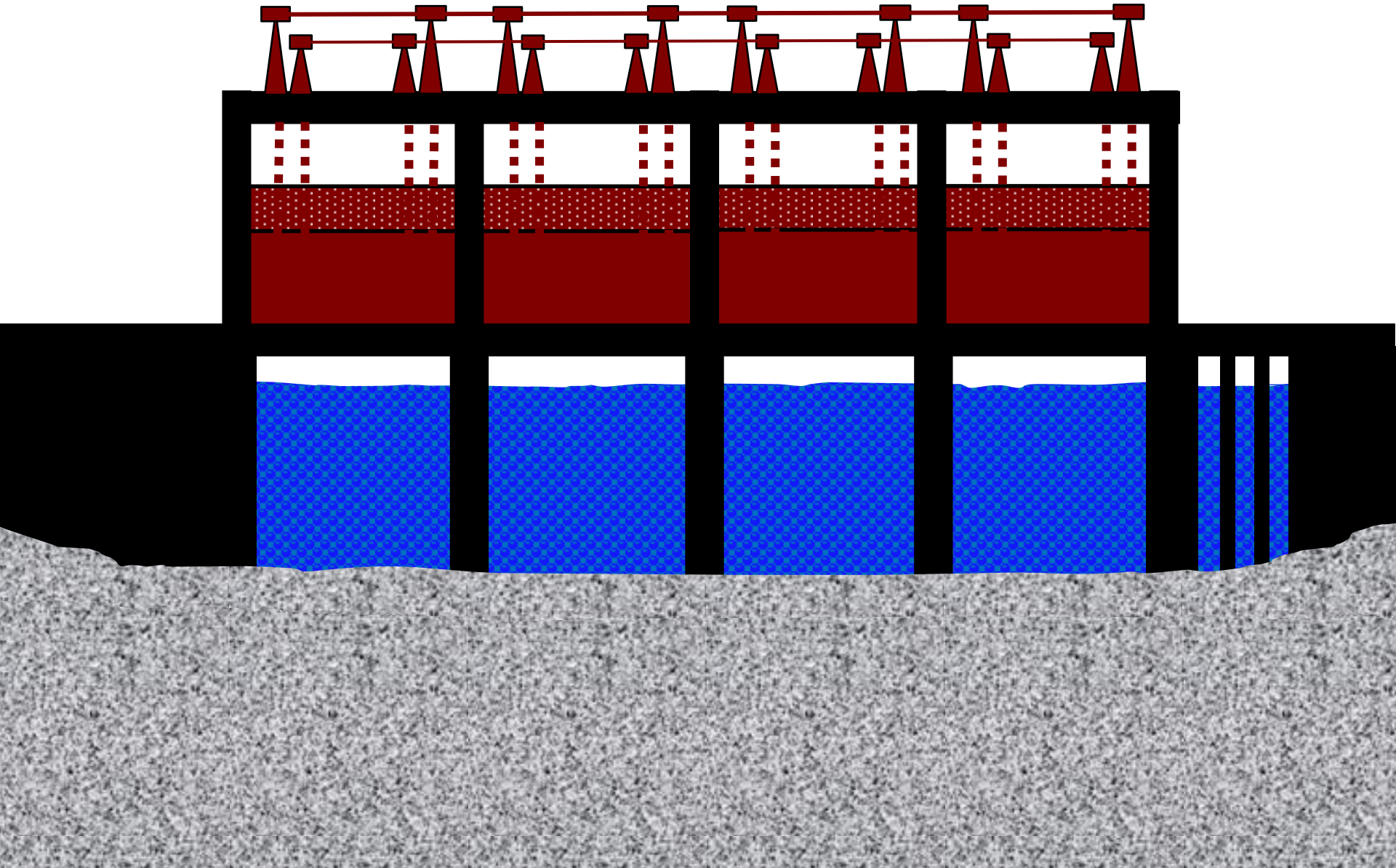
Peconi & Lambert





# ADJUSTABLE CREST WEIR STRUCTURES

Peconi & Lambert



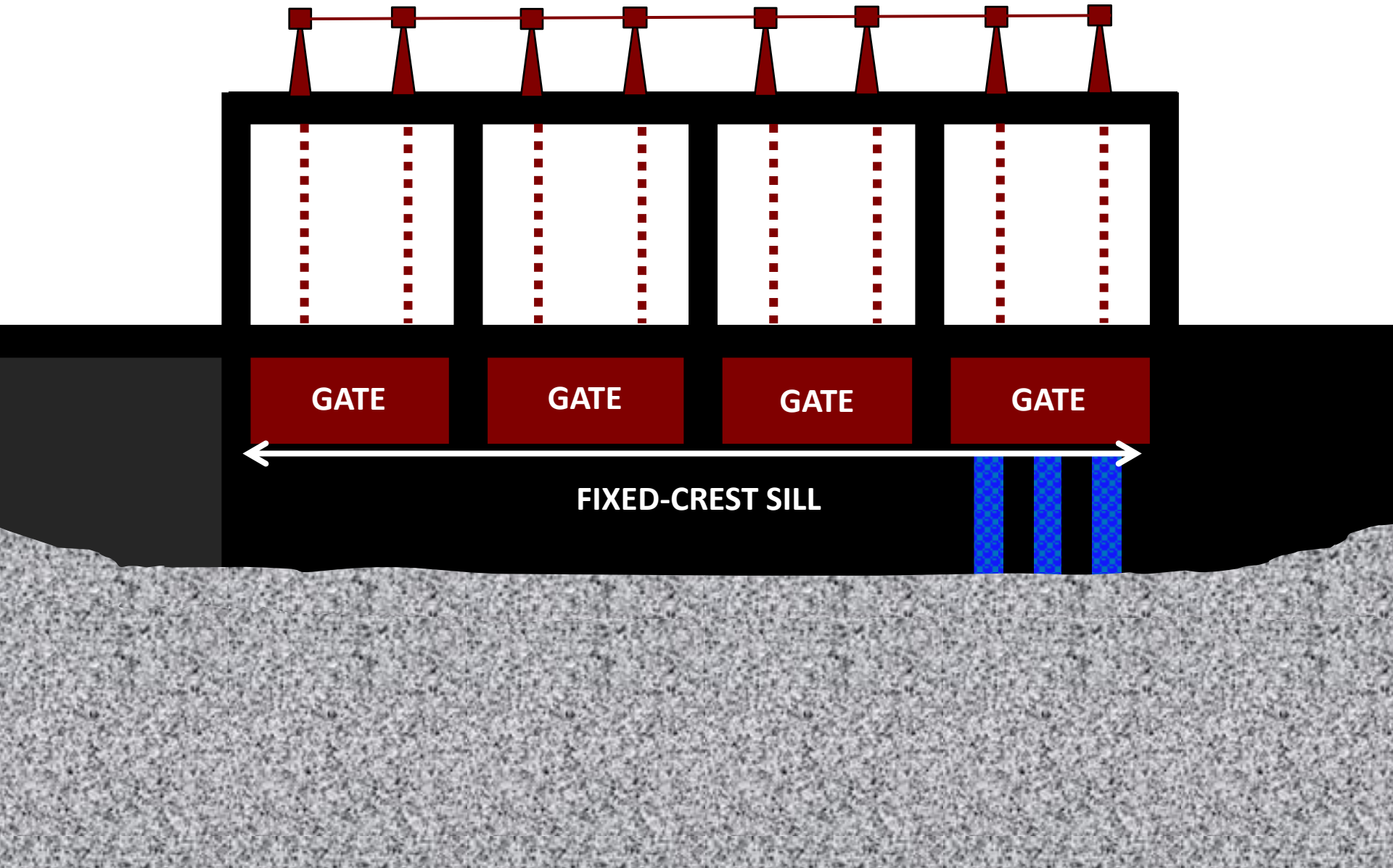
## No-Name and Mangrove are FIXED CREST Weirs





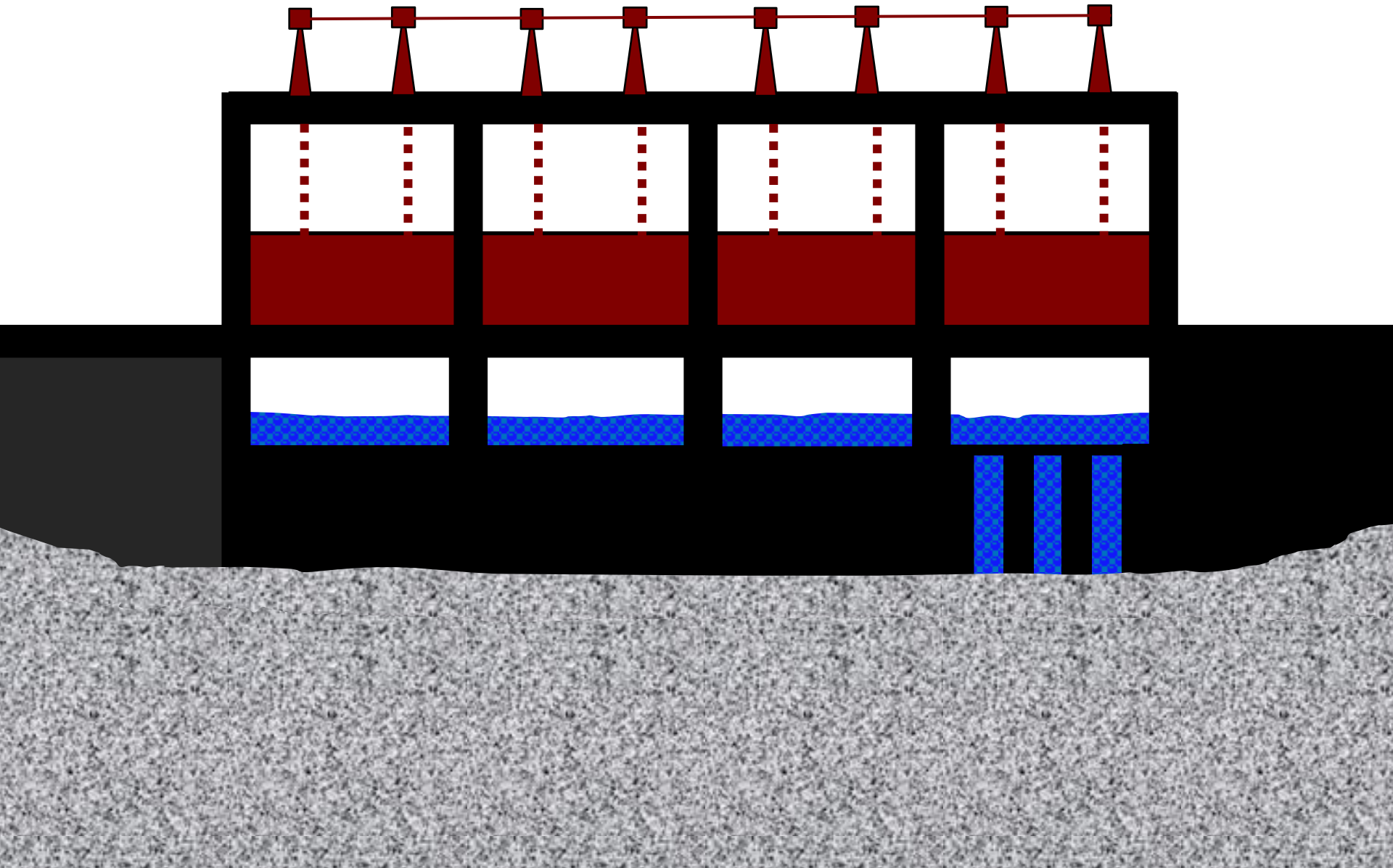
# FIXED CREST WEIR STRUCTURES

No-Name & Mangrove



# FIXED CREST WEIR STRUCTURES

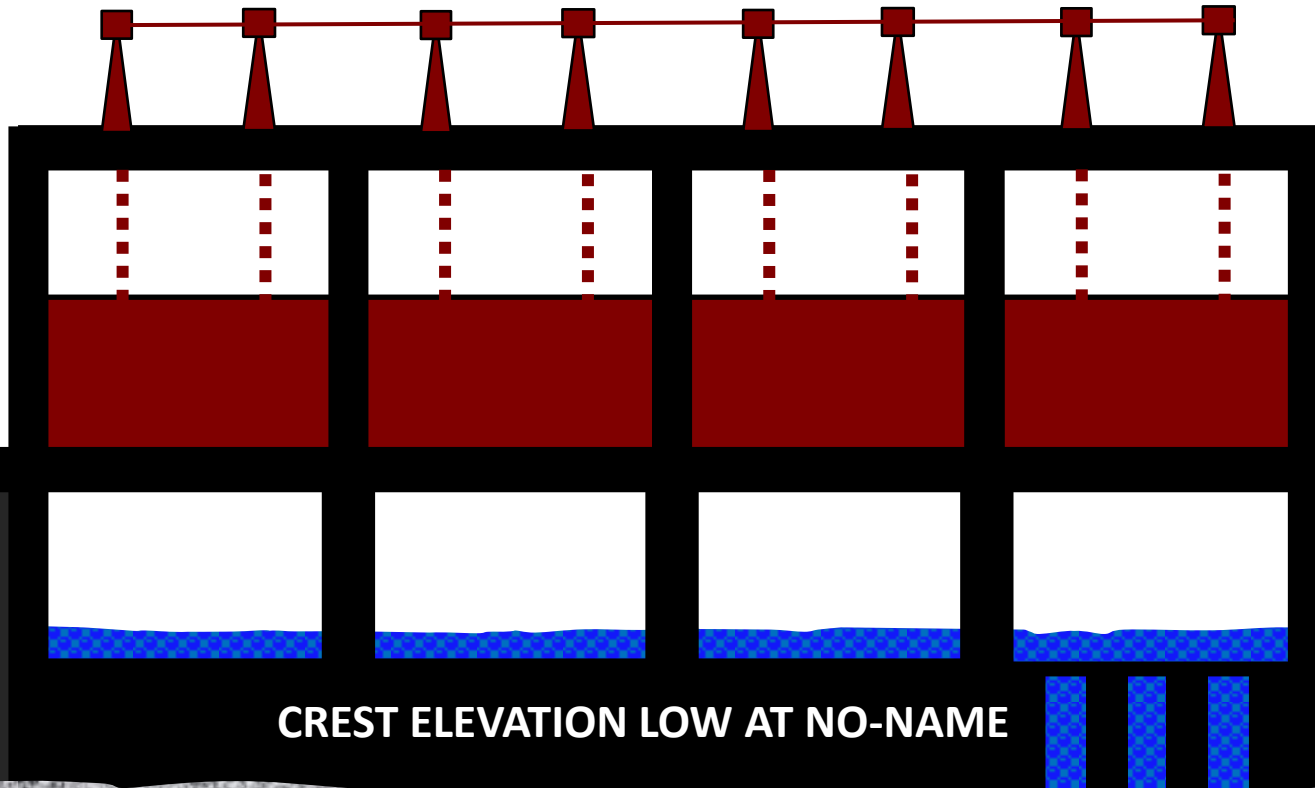
No-Name & Mangrove





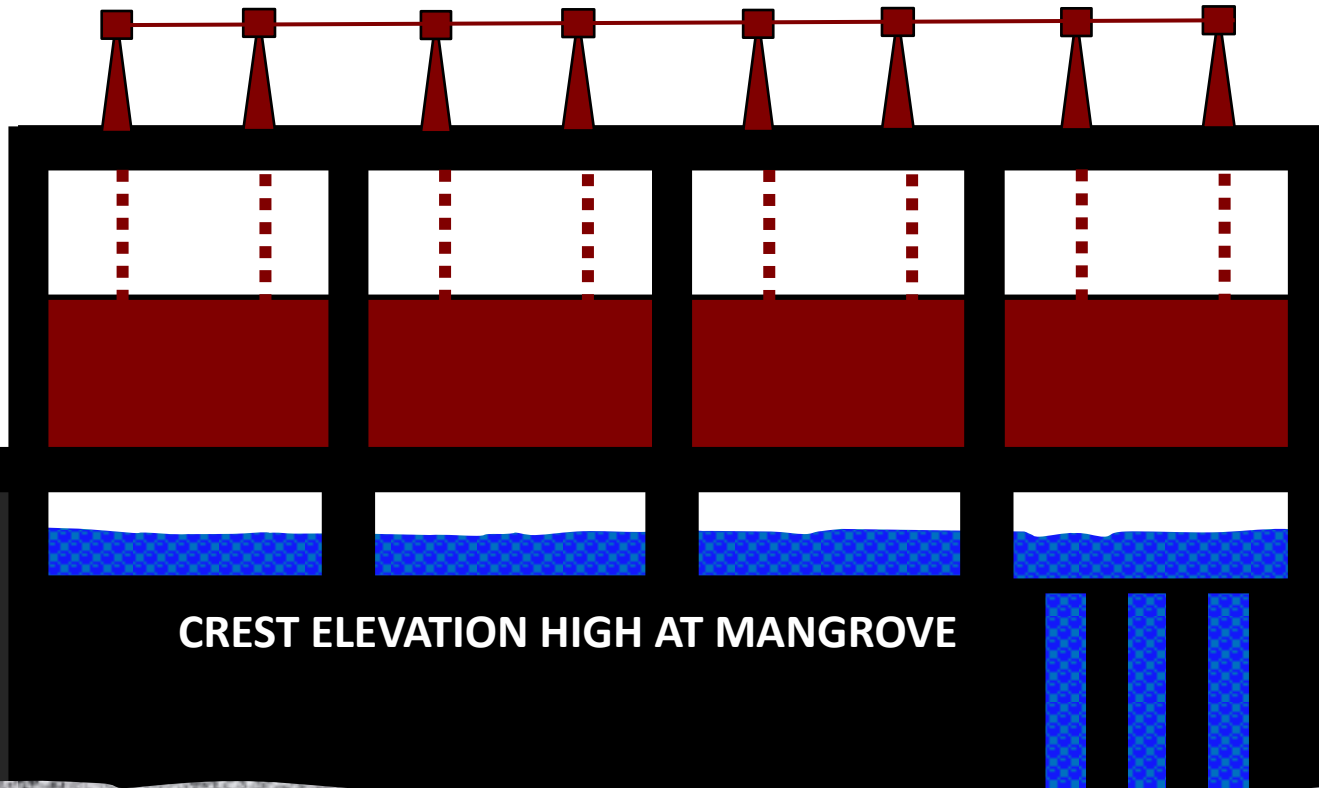
# FIXED CREST WEIR STRUCTURES

No-Name



# FIXED CREST WEIR STRUCTURES

Mangrove





**BOAT BAY at Grand Bayou**



A grayscale background image of a coastal marsh. In the foreground, there are large, light-colored rocks. Behind them, a dense line of marsh grasses or reeds stretches across the frame. In the distance, a body of water meets a cloudy sky.

**Salt water flows into the marsh and evaporates**

**The marsh becomes dangerously saline**

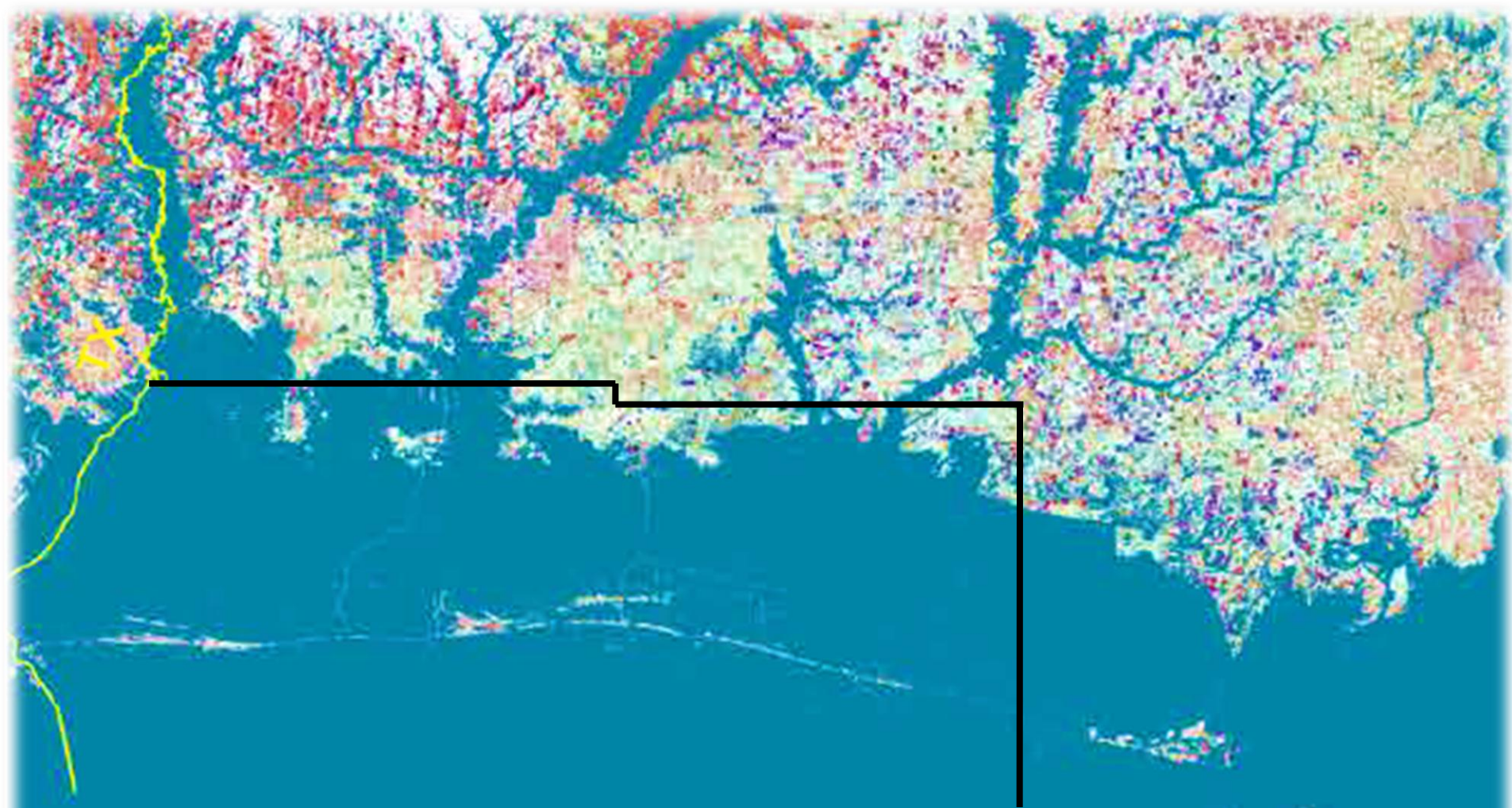
**Too much water can drown the marsh**

**The weirs hold salt water out and allow  
rainwater to freshen the marsh**

**CPRA helps out with scientific measurements  
and advises the Committee**

**The Committee is in control and  
the Committee makes the decisions**





The goal is to have sustainable marsh,  
shrimp, crabs, fish and the protective buffer  
the marsh affords